





# CONTENTS

<b>Foreword</b> .....	<b>4</b>
<b>A year in sustainability</b> .....	<b>5</b>
<b>Introduction</b> .....	<b>7</b>
<b>Supporting each of the 17 SDGs</b> .....	<b>8</b>
Goal 1: No poverty .....	9
Goal 2: Zero hunger .....	11
Goal 3: Good health and wellbeing.....	13
Goal 4: Quality education .....	15
Goal 5: Gender equality.....	17
Goal 6: Clean water and sanitation .....	19
Goal 7: Affordable and clean energy .....	21
Goal 8: Decent work and economic growth.....	23
Goal 9: Industry, innovation and infrastructure.....	25
Goal 10: Reduced inequalities.....	27
Goal 11: Sustainable cities and communities.....	29
Goal 12: Responsible consumption and production .....	31
Goal 13: Climate action.....	33
Goal 14: Life below water .....	35
Goal 15: Life on land .....	37
Goal 16: Peace, justice and strong institutions.....	39
Goal 17: Partnerships for the goals .....	41
<b>What next?</b> .....	<b>43</b>

# FOREWORD

The **United Nation’s 17 Sustainable Development Goals** (SDGs) are our world’s call to action on the most pressing challenges and opportunities facing humanity and the natural world. At the University of Liverpool, we are dedicated to driving progress towards all of the SDGs by making a positive impact through our research, education and operations.

Through our commitment to these goals, we strive to integrate sustainability into our business practices and operations, to collaborating with regional, national, and international partners in support of the goals; and to sharing best practice. With that in mind, it gives us great pleasure to introduce our Sustainable Development Goals Report 2023–2024, which captures all our activities that support the goals in alignment with the University’s strategic vision and objectives.



# SUSTAINABILITY IN A SNAPSHOT

**1 NO POVERTY**



Addressing child poverty with the Child Poverty and the Cost of Living Crisis report

**2 ZERO HUNGER**



Queen of Greens Bus delivering affordable fresh food to campus

**3 GOOD HEALTH AND WELL-BEING**



Advancing innovation in global health with The LONGEVITY Project

**10 REDUCED INEQUALITIES**



Tackling inequalities and health disparities in the Manifesto for Liverpool City Region

**11 SUSTAINABLE CITIES AND COMMUNITIES**



Sustainable and Resilient Cities research theme driving innovative approaches to resilient city-building

**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**



Six labs achieve gold status in the Laboratory Efficiency Assessment Framework (LEAF)

**4 QUALITY EDUCATION**



Awarded Gold standard in the Teaching Excellence Framework (TEF)

**5 GENDER EQUALITY**



Tackling gender bias with the Liverpool Feminist City Network

**6 CLEAN WATER AND SANITATION**



Safe sanitation and free menstrual products for all staff and students

**13 CLIMATE ACTION**



New Interdisciplinary Centre for Sustainability Research tackling climate-related SDGs

**14 LIFE BELOW WATER**




Sustainable Food Policy supporting fish stock preservation and marine biodiversity

**15 LIFE ON LAND**




Gold-accredited member of the Hedgehog Friendly Campus Scheme

**7 AFFORDABLE AND CLEAN ENERGY**



Ensuring universal access to clean modern energy through the CLEAN-Air(Africa) Global Health Research Unit

**8 DECENT WORK AND ECONOMIC GROWTH**



Driving substantial economic impact through the National Biofilms Innovation Centre

**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**



Digital Innovation Facility bridging research and commercial expertise to advance digital technologies

**16 PEACE, JUSTICE AND STRONG INSTITUTIONS**



Free and confidential legal advice at the Liverpool Law Clinic

**17 PARTNERSHIPS FOR THE GOALS**



Strengthening global partnerships in research, education, and innovation to address global challenges



# INTRODUCTION

In 2023 the University launched its new strategic framework **Liverpool 2031**, setting out an ambitious new vision for the University and several key priorities for sustainability, brought together under a **cross-cutting theme** which supports our commitments to the SDGs.

As an institution we are already making significant progress towards the sustainability ambitions set out in our previous Sustainability Strategy, published in February 2021, but since the launch of the University's new strategic framework, work has been underway to develop a new Sustainability Strategy which will build upon our progress to-date and ensure we are making an equal contribution to the SDGs throughout our research, education and operations.

During 2023-24 we have signed the **UKRI Concordat for the Environmental Sustainability of Research and Innovation Practice**, held another successful **Sustainability Week**, developed a **Sustainable Events Guide**, launched

**sustainability training opportunities** and an induction for staff, achieved gold award success in the **Laboratory Efficiency Assessment Framework (LEAF)**, and delivered ground-breaking research that is helping the UK to transition to clean, affordable energy. Throughout COP28, we showcased how Liverpool's research can influence future policy, governance and innovation to combat the global climate crisis.

We are proud to have risen 100 places and ranked among the world's top 50 for environmental and social impact in the annual QS Sustainability Rankings, boosting the University's position in the QS World Rankings. We are in the top 100 in the Times Higher Education (THE) Impact Rankings 2024, and there was further good news from the 2023/24 People and Planet League where the University was ranked among the UK's top 50 for its environmental and ethical performance. In addition, we received recognition for our efforts in the University of Liverpool staff awards as well as "Best TravelWise Week Campaign for Business" at the Team Modeshift National Sustainable Travel Awards, and "Faculty campus initiative" at the Oral Health Professional Educators' Practice Green Awards. We have also been shortlisted as a finalist at the 2024 Green Gown Awards in the 'Campus Health, Food and Drink' category.



# SUPPORTING EACH OF THE 17 SDGS

Working in partnership both locally and globally, we are tackling each of the SDGs through our research and knowledge exchange, education and student experience, and through our operations. In the following sections of this report, we have summarised some of our unique commitments to the individual goals over the past 12 months. Further case studies can be found on our [website](#).







# GOAL 1: NO POVERTY

End poverty in all its forms everywhere

## Operations

The University of Liverpool actively supports SDG 1, aiming to reduce poverty and promote social mobility through comprehensive initiatives that increase access to higher education and provide ongoing support for students from economically disadvantaged backgrounds. We are committed to enhancing social mobility by broadening access to higher education, as outlined in our [Access and Participation Plan](#). Through our [Student Success Framework](#), we set ambitious targets to help students from economically disadvantaged backgrounds secure rewarding graduate jobs and pursue further studies. We offer [scholarships and bursaries](#) to support talented students from all backgrounds and have pledged with the [United Nations Human Rights Council](#) to expand access to Higher Education for refugees. For students facing financial hardship, we provide various resources, including a [hardship fund](#), subsidised food, free sanitary and sexual health products, and extended access to campus facilities. As an accredited real [Living Wage Employer](#), we also encourage our staff to volunteer with local charities through our ["Liv to Give"](#) program and offer [financial support](#) to foster the growth of financially and socially sustainable businesses.

## Education and student experience

Our students engage with the complex root causes of poverty through a range of course modules, such as [Understanding Social Exclusion](#), which examines varied

interpretations of social exclusion alongside related issues like poverty, inequality, and deprivation. In [Quantitative Approaches to Poverty over the Life-Course](#), students learn to apply concepts and measures of poverty and life-course disadvantage, equipping them with analytical skills relevant to sociology and social policy. Beyond academics, students can actively contribute to SDG 1 through extracurricular activities, including volunteering initiatives led by the Liverpool Guild of Students. One such program, the [IntoUniversity Mentoring Scheme](#), pairs students with young people from some of the UK's most disadvantaged areas, helping to raise aspirations and unlock potential.



## Research and knowledge exchange

The [Heseltine Institute for Public Policy, Practice and Place](#) plays a pivotal role in shaping policy initiatives aimed at eradicating poverty in all its forms, demonstrating the

University's commitment to creating a more equitable society. Groundbreaking research, such as the [Child Poverty and the Cost of Living Crisis](#) report, highlights how children in Northern England are disproportionately affected by rising living costs and associated risks. Similarly, the [Workers Using Foodbanks](#) study reveals the link between inadequate employment conditions and food insecurity among UK workers.



### Case Study

## Reducing child poverty and parental mental health problems

A large-scale study, published in the [Journal of Adolescent Health](#) led by University of Liverpool researchers, found that child poverty and caregiver mental health problems had significant negative impacts on the health of the next generation. This study was one of the first to examine the combined effects of both paternal and maternal caregiver mental health over multiple childhood years, including early adolescence. The research team analysed longitudinal data on 10,500 children from the UK Millennium Cohort Study, tracking poverty levels, maternal mental health, and secondary caregiver mental health from when the children were 9 months old up to 14 years. They then assessed associations between these factors and mental health outcomes at age 17, identifying five distinct trajectories. Compared to children in low-poverty homes with healthy parental mental health, those who experienced poverty and poor mental health in primary or secondary caregivers (53%) showed worse outcomes. Children exposed to both persistent

poverty and caregiver mental health struggles faced a markedly increased risk of socioemotional and behavioural problems, mental health issues, and cognitive disability. The researchers estimated that 40% of socioemotional behavioural problems at age 17 were attributable to prolonged caregiver mental health challenges and poverty, with potential lifetime earnings improvements for these adolescents estimated at around £6.5 billion if these issues were addressed.



### Case Study

## New centre tackling educational inequalities in Kirkby

A [new educational centre](#) aimed at tackling educational inequalities in Kirkby officially opened in March 2024, providing young people from disadvantaged backgrounds in the town and surrounding areas with enhanced opportunities to attend higher education. The centre, a collaboration between education charity IntoUniversity, the University of Liverpool, LFC Foundation, Everton in the Community, and The Steve Morgan Foundation, held its opening event with special guests including former Everton player Ian Snodin and former Liverpool and England goalkeeper Chris Kirkland. With 35.1% of children in Kirkby living in poverty and the town ranking among the 10% most deprived areas nationally, the centre aims to address the area's low progression rate to higher education, which stands at just 26.9% compared to the national average of 44%. The centre employs four full-time staff members and offers a range of services, including after-school academic support, mentoring, in-school workshops, and work experience opportunities. IntoUniversity, which

supports over 50,000 young people annually across its 41 centres nationwide, has a strong track record of improving higher education outcomes for disadvantaged students, with 61% of attendees progressing to university, compared to just 28% of similar students nationally.

[Read more about our impact in SDG1 on our website.](#)







# GOAL 2: ZERO HUNGER

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

## Operations

The University of Liverpool contributes to SDG 2 by addressing food insecurity and promoting sustainable food practices through a range of support services and responsible sourcing initiatives. Students experiencing food poverty are supported through the **Student Hardship Fund**, short loans, and debt advice, while the **Sustainable Food Policy** ensures that locally sourced, seasonal, and affordable food, including at least 50% vegan options, is available across campus catering outlets, with food waste being redirected for anaerobic digestion or redistribution to local charities. The University adheres to responsible procurement principles, is a member of **TUCO** (The University Caterers Organisation Limited), and, in collaboration with The Guild of Students, is working towards achieving Fairtrade Accreditation by spring 2025.

## Education and student experience

The University of Liverpool supports SDG 2 by equipping students with knowledge, skills, and opportunities to address food insecurity, sustainability, and global health challenges through innovative modules, hands-on initiatives, and community-driven events. The **Living with Environmental Change** module provides students with unique insights into key global issues such as globalisation, geopolitics, climate change, sustainability, health, economics, population growth, hazards, pollution, and natural resource management. **Law and Global Health** module examines legal, social, and ethical issues surrounding food poverty and other global health

challenges, focusing on the role of law in addressing health inequalities and promoting public health. The Liverpool Guild of Students offers a range of events, including Give it a Go sessions, volunteering opportunities such as weekly food growing initiatives on campus, and support campaigns, empowering students to become meaningful agents of change. During the annual **Sustainability Week**, students had the opportunity to participate in the Love Food, Hate Waste Food Pantry event, which offered practical advice on reducing food waste, saving money, and included cooking



demonstrations using leftovers donated by the University's catering services and the Liverpool Zero Waste Community.

## Research and knowledge exchange

Our researchers are actively **involved in efforts to transform the UK food system** and to understand the impact it has on our health, sustainability and the health of the planet. Building on prior work funded by **N8 AgriFood**, the **Household Food Insecurity** project explores how food insecurity and related stress can drive people toward inexpensive, convenient foods, affecting both mental and physical health. Additionally, as part of a **UKRI-funded project** led by the University of Aberdeen, University of Liverpool researchers investigated retail strategies to combat dietary inequalities, particularly among individuals facing obesity and food insecurity, highlighting how healthier diets are often prohibitively expensive. Complementing these efforts, the **Liverpool Food Growers Network**, founded by university researchers, fosters a sustainable network of community food projects across the Liverpool City Region. Inspired by this success, the Sowing the Seeds of Sustainability initiative was launched on campus, where volunteers grow and harvest produce, building food resilience and community involvement.



### Case Study

## Protecting workers facing food insecurity

The University of Liverpool Law School hosted an event to advocate for action based on a new research report aimed at better protecting workers in Liverpool who face food insecurity. Conducted in collaboration with Feeding Liverpool, the report captured firsthand accounts from local workers relying on food banks and pantries. These stories, gathered by final-year Law students as part of their studies, revealed that food insecurity among employed people often stems from low incomes, insufficient employment protections, welfare issues, and barriers to accessing the legal system. The students, trained in wage and welfare rights, conducted placements in food support venues to provide free legal advice and guidance. The report, **Without Access to Justice: The Work and Welfare Problems Driving Food Insecurity**, showcased how these challenges exacerbate food insecurity and was presented with animated short films during the launch event, as well as at follow-up sessions in the House of Commons and online. The researchers recommended several measures

for the government, Department of Work and Pensions, local authorities, employers, and trade unions, including simplifying welfare access, increasing the minimum wage, and encouraging the creation of jobs that support workers' mental and physical health.



### Case Study

## Eating for public and planetary health: navigating complexity and tackling inequalities

Professor Charlotte Hardman delivered her inaugural lecture in June 2024, entitled Eating for public and planetary health: Navigating complexity and tackling inequalities. Professor Hardman's lecture discussed her research exploring the psychological determinants of eating behaviours and how she has applied this knowledge to the development of approaches to facilitate healthy and sustainable diets for all. Poor diet is a major contributor to obesity and non-communicable diseases. Consuming a diet rich in plant-based foods with fewer animal sources substantially reduces disease risk for multiple health outcomes whilst also having co-benefits for the health of the planet. However, the modern food system is highly complex and there are also marked socio-economic inequalities, whereby individuals experiencing socio-economic disadvantage are more likely to experience food insecurity and difficulties with accessing

affordable healthier foods. Holistic approaches are therefore needed to transform the food system for health, sustainability and equity. Professor Hardman also spoke about her career as a researcher, including her work as a Professor of Psychology of Eating Behaviour at the University of Liverpool. She leads a programme of research on appetite and obesity, and the psychological determinants of healthy and sustainable food choices.

**Read more about our impact in SDG2 on our website.**







# GOAL 3: GOOD HEALTH AND WELLBEING

Ensure healthy lives and promote well-being for all at all ages

## Operations

Ensuring healthy lives and promoting wellbeing for all is essential to sustainable development. To support this goal, we created a **Wellbeing Map** that highlights various on-campus resources for student and staff wellness, including places to be active, connect, find support, take time out, and eat well. Our **Sport Liverpool** centre offers facilities that enhance physical and mental health, open to both the university community and the public. Campus green spaces, such as the library garden and **Ness Botanical gardens**, invite relaxation and engagement with nature.

We have a **Wellbeing Advice and Guidance Team** who provide information, advice, and guidance to students on a range of personal and social issues, with a focus on improving the overall mental and physical wellbeing. The **Mental Health Advisory Service** provide a confidential service for students experiencing complex and/or significant mental health difficulties. Students can also access a confidential, inclusive **Counselling Service** with qualified therapists trained in a range of evidence-based psychological therapies. We are committed to ensuring that our staff have a safe, healthy, and enjoyable place to work, through our **Employee Assistance Programme**, offering a **range of services**. Our **Student Health Centre** provides dedicated student health services and surgeries, and the **Student Health Advice Centre** offers a full range of nursing services including contraception, sexual health screening, health advice, minor injuries, and the management of chronic diseases such as asthma and diabetes.

## Education and student experience

Achieving good health and well-being is a complex, multifaceted goal, and at the University of Liverpool, students can explore its causes and solutions from diverse perspectives through a range of course modules. **Health, Cultures and Societies** provides an exciting opportunity for students to explore issues around health, illness, wellbeing, and medicine. **The Regulations of Medicine, Health and Social Care** investigates the regulatory frameworks in health



and social care, focusing on their theoretical foundations, impact on stakeholders, the role of competition versus health values, and how regulation intersects with expertise, trust, and service provision. Students can also support the aims and objectives of SDG3 by delivering workshops on mental health and wellbeing as an **outreach volunteer**.

## Research and knowledge exchange

The University of Liverpool advances SDG 3 by driving innovative health solutions, interdisciplinary collaborations, and outreach initiatives that address global health inequalities and support community wellbeing. The University of Liverpool's new **Civic Health Innovation Labs (CHIL)** brings together community members, health professionals, and researchers to develop AI and data-driven health solutions. The **Institute of Population Health** facilitate interdisciplinary partnerships based on a shared vision, sharing knowledge and expertise, with **Liverpool Health Partners**, the **Northern Health Science Alliance** and local NHS Trusts. Outreach initiatives, including the **Merseyside Young Health and Life Scientists** programme, support young people from under-represented groups interested in pursuing health and life sciences. Additionally, research projects like the **Children Growing Up in Liverpool (C-GULL) Study** are contributing to long-term efforts to improve the health and wellbeing of families in the Liverpool City Region.



### Case Study

## The LONGEVITY Project

In 2020, the University of Liverpool launched the **LONGEVITY project**, aimed at improving long-acting therapeutics for the treatment and prevention of tuberculosis, malaria, and hepatitis C. With over £6M in funding awarded by Unitaid in 2023, the project achieved preclinical proof of concept for long-acting medications targeting tuberculosis and hepatitis C therapy. The project focused on ensuring these therapeutics were accessible in low- and middle-income countries (LMICs). A key component of the University's Centre of Excellence for Long-acting Therapeutics (CELT), the project brought together expertise from pharmacology and materials chemistry to develop long-acting drug delivery systems, which are increasingly vital in combating global health threats like antimicrobial resistance (AMR). LONGEVITY's extension funding allowed the continuation of work that addressed specific challenges in LMICs, with the program serving as a prime example of interdisciplinary collaboration in global health innovation.



### Case Study

## Highlighting inequality in green spaces and mental health

A **study** led by researchers from the Department of Public Health, Policy and Systems at the University of Liverpool highlighted the beneficial role of greenness and access to green or blue spaces in reducing socioeconomic-related inequalities in mental health. The researchers found that every additional 360m to the nearest green (e.g. park, field or wooded area) or blue (e.g. lake, marina, or the sea) space was associated with higher odds of anxiety and depression. Researchers worked with international partners to anonymously link records of household greenness, access to green and blue space, and GP records of anxiety and depression for over 2 million adults in Wales. While the effects of green spaces on mental health have been well documented, using the medical records of an entire adult population over such a considerable length of time gives a new level of understanding to this work. The researchers emphasised that investing in improved public green spaces might bring mental health benefits to everyone,

but particularly for those living in more deprived areas. The findings can support organisations and authorities responsible for green and blue spaces, who are attempting to engage planners and policymakers, to ensure that local green and blue spaces meet the health needs of residents. The researchers call for future studies to investigate why those living in lower-income and higher-income areas are affected differently by access and exposure to green and blue spaces. We need to ensure that those who are in the most need, and will benefit the most, have access to these free green and blue spaces, helping to protect the health of our population.

**Read more about our impact in SDG 3 on our website.**







# GOAL 4: QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

## Operations

The University of Liverpool supports SDG 4 by promoting inclusive, high-quality education through innovative programs, community partnerships, open access to knowledge, and opportunities for lifelong learning. Our [IntoUniversity North Liverpool](#) partnership empowers talented young people from all backgrounds to excel academically and believe in their potential to attend university. Staff can enhance students' experiences and



support future employability by offering [graduate career opportunities](#), [mentoring](#), [supporting recruitment efforts](#), or serving as [School Governors](#). The [Centre for Innovation](#) collaborates with faculty and program teams to elevate the student experience through thoughtful and impactful curriculum design. Our libraries champion [Open Access](#), ensuring research is freely available to everyone. Through our [Continuing Education](#) programs, we provide a diverse range of courses, lectures, and events, along with free access to podcasts, blogs, and articles. The [Victoria Gallery & Museum](#) offers an array of educational workshops, talks, activities, and resources, all available at no cost to the public. In July 2023, we held our annual [Learning & Teaching Conference](#), a cornerstone event that celebrates and advances teaching excellence across the institution.

## Education and student experience

The University of Liverpool received the highest gold rating in the [2023 Teaching Excellence Framework \(TEF\)](#), a national program by the Office for Students recognizing excellence in teaching, learning, and positive student outcomes. The Liverpool 2031 framework prioritises Education for Sustainable Development (ESD) across the curriculum, aligning with the UN Sustainable Development Goals. Through the [Curriculum Project](#), a sustainability working group has been established to integrate ESD into all academic areas, preparing graduates as responsible global citizens. In 2022,



the University met its Sustainability Strategy target, ensuring all students have access to sustainability-focused modules, extracurriculars, or other relevant learning opportunities. The [Student Sustainability Hub](#), a joint initiative of Careers and Employability and the Centre for Innovation in Education, serves as a central resource for students interested in sustainability, offering the Student Sustainability Network, resources, guidance, and events. Students can also enrol in the Sustainability in Action online course to explore the Sustainable Development Goals and audit curriculum modules for SDG relevance, contributing feedback for curricular improvements. Upon graduation, students

receive a digital Higher Education Achievement Report (HEAR), documenting both academic and extracurricular achievements. The University of Liverpool [Maths School](#) is the only school in the North West specialising in A Levels in Maths, Further Maths, Computer Science, and Physics, offering a unique and stimulating academic curriculum. The [Centre for Higher Education Studies](#) supports high-quality education and research, with modules like [Strategic Learning, Training, and Development](#), which foster critical understanding of strategic learning's role.

## Research and knowledge exchange

The University of Liverpool supports SDG 4 through impactful research that addresses educational inequities and explores innovative approaches to improving student learning and outcomes. As a distinguished member of the [Russell Group](#), the University is internationally recognised for its pioneering research. [Lecture capture affects student learning behaviour](#) looks at how the real-time recording of live lectures may negatively affect some students' attendance and study behaviour. New analysis from the [Child of the North: Addressing Education and Health Inequity](#) report found the schools funding imbalance corresponds with children in the North having higher school absences and experience poor educational outcomes.

### Case Study

## Supporting refugees into Higher Education

The University of Liverpool signed up to the [United Nations Human Rights Council \(UNHCR\) Global Pledge](#) for expanding refugee access to Higher Education. The UNHRC, with its global network, aims to expand access to higher education and self-reliance for refugee and host community youth. It has launched this global initiative which recognises the range of essential contributions that can be made by stakeholders around the world. The University is committed to providing up to 4 Asylum Seekers Scholarships each year for undergraduate students who are seeking asylum in the UK or are dependents of 2-3 Humanitarian Scholarships for Masters students who have refugee status outside the UK or for Ukrainian Nationals who have EU temporary protected status. The Humanitarian Scholarships are offered across a wide range of subjects, with one dedicated to law courses funded through the School of Law and Social Justice. In addition, the English Language Centre provides support for students to be equipped with the language skills they need to

fully participate in the courses when they arrive in Liverpool. The Humanitarian Scholarship and Asylum Bursary, along with membership of Cara and support for British Academy Researchers at Risk, form part of the University's commitment to applying for University of Sanctuary status and its commitment to supporting global humanitarian initiatives.



### Case Study

## Prestigious student internships

University of Liverpool Chancellor and United States District Judge, Wendy Beetlestone, selected two students from the Liverpool Law School to undertake a prestigious [2024 summer internship](#) in the chambers of Judge Beetlestone at the United States District Court in Pennsylvania. The internship offered the successful applicants first-hand exposure to real-world cases, legal research and the inner workings of the US District Court. Students were fully immersed in a dynamic working environment, allowing them to develop their workplace legal skills. The students were selected as part of a competitive application process with students from the School of Law and Social Justice. An alumna of the University, Judge Beetlestone graduated with a BA (Hons) in Philosophy in 1984. She embarked on a career as a TV journalist before entering the legal profession a decade later. In 2014, former President Barack Obama nominated her to serve as a District Judge, presiding over civil and criminal cases involving the US Constitution, federal statutes, and certain disputes between citizens of different states.

[Read more about our impact in SDG4 on our website.](#)







# GOAL 5: GENDER EQUALITY

Achieve gender equality and empower all women and girls

## Operations

We are committed to **breaking down gender-related barriers** and fostering an inclusive environment where all staff and students can reach their full potential. A range of **policies, initiatives, and facilities** support this goal. Our **Diversity & Equality Policies** prohibit discrimination based on gender or sex, while our **Bullying & Harassment Policy** specifically addresses harassment and discrimination against women. The **Report & Support** system provides a confidential platform for reporting bullying, sexual harassment, or discrimination. Our community is further supported by **various networks**



that staff and students can join, including the Endometriosis Network, Female Early Career Network, Trans and Non-Binary Peer Support Network, and Menopause Network. Through the **Guild**, students can also participate in the Women's Network or Feminist Society to access resources, collaborate, and drive positive change for women's experiences both at University and beyond. The University became a signatory of the **Athena SWAN Charter** in 2009, receiving an institutional Silver Award in 2016 and again in 2022, recognising our ongoing commitment to gender equality. We are dedicated to ensuring equal pay for equal work and addressing the underlying causes of our **Gender Pay Gap**. Additionally, we offer a range of professional development opportunities, both internally and externally, including the **Advance HE Aurora leadership programme** for women and support for women and girls in STEM through societies like **LivWISE**. Throughout **International Women's Day** and Women's History Month, the University hosts a variety of events that celebrate the history, experiences, and achievements of women, highlighting the remarkable contributions of our female alumni and staff.

## Education and student experience

Gender equality is a central focus in many of the University's teaching modules. **Law and Gender** encourages students to develop a gender-conscious approach to legal studies, while Gender and Feminist Politics explores key concepts and ideas in gender politics. The University also offers a variety of student societies that support the goals of SDG 5, including the **Feminist Society**. This intersectional group fosters a fun, safe, and educational space for students to build connections

and engage in activism. Their core priorities include campaigning, fundraising, and education.

## Research and knowledge exchange

Our academics contribute to a wide range of gender equality research across various disciplines. One notable study, **The Effectiveness of Gender Diversity Reforms and the Impact of a Familial Culture: A Spillover Effect on Board Independence**, examines how gender diversity reforms have improved UK company boards, though similar reforms have fallen short in other countries. The **#Lads on Social Media: Investigating Young Networked Masculinities** project examines how young men (18-25) in the UK use social media to form masculinised identities, often linked to 'laddish' cultures. It seeks to understand their experiences and encourage critical engagement with online spaces to challenge harmful gender norms. Another key paper, **Work-family Habits? Exploring the Persistence of Traditional Work-Family Decision Making in Dual-Earner Couples**, delves into how unconscious, habitual decision-making processes in families continue to reinforce traditional gender roles, hindering true gender parity in both domestic and workplace settings. Additionally, the **Department of Women's and Children's Health** at the University is internationally renowned for its cutting-edge research in obstetrics, gynaecology, neonatology, and medical and surgical paediatrics, contributing significantly to gender-focused health and well-being studies.



### Case Study

## #Men4Change toolkit addressing harmful gender norms

The University of Liverpool launched the **#Men4Change toolkit** in 2023, aimed at addressing harmful gender norms and supporting young men in critically exploring masculinity. This educational resource, developed by the Department of Communication and Media through the **#Lads on Social Media** research project, helps youth leaders and professionals work with young men to understand the impact of gendered behaviours, both online and offline. The toolkit encourages young men to reflect on and challenge behaviours tied to sexual harassment, objectification, and the pressure of traditional masculinity. Research from the project revealed that harmful gender norms, like associating masculinity with sexual conquest and dominance, are linked to sexual and gender-based abuse, such as non-consensual sexting. The findings highlighted the need for interventions that engage men and boys in discussions that challenge toxic masculinity and promote healthier behaviours. The toolkit includes real-life scenarios, such as confronting harmful online behaviours,

and offers practical tools to support positive cultural change. The initiative was developed in collaboration with community stakeholders like Metro, Beyond Equality, and Survivors Network. The toolkit is an essential resource for creating safer spaces and promoting gender equality by equipping young men to become active participants in dismantling harmful gender stereotypes.



### Case Study

## Introducing the Liverpool Feminist City Network

The Liverpool Feminist City Network was launched in 2024 to offer a space for University of Liverpool researchers, policymakers and practitioners to connect and address the question of how we can live more justly in an urban world. The network is re-framing conversations on urban design, public space, public safety, governance, institutional design, and public policy and services to understand how to create cities that work better, not only for women, but for everyone. A 'Feminist City' is one which is human-centred and inclusive of marginalised groups, and this network considers how women experience and engage with the city, and harnesses debate and ongoing address ongoing challenges with this idea. The network has convened a series of networking events at the University, bringing together researchers working across a range of disciplines whose work in different ways engages with the idea of the Feminist City. The network meets regularly to share and profile research activity and provoke research connections and collaborations and is open to researchers

and scholars (including doctoral students) across disciplines and Faculties. The gender bias built into the design of cities has had a negative effect on the lives of women around the world and designing cities that are responsive to the needs of women creates safer, healthier, fairer and more enriching places for all. Research emerging from the University has already had a global impact and the Feminist City Network is a significant opportunity to inspire new collaborations and research opportunities. Professor Catherine Durose and Dr Catherine Queen discussed feminist cities on the University's **Original Ideas podcast**.

Read more about our impact in SDG5 on our website.







# GOAL 6: CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

## Operations

The University of Liverpool supports SDG 6 by promoting sustainable water management, conservation initiatives, and improved access to clean water and sanitation across campus. We have implemented comprehensive water usage policies, with all necessary permits and licenses in place. Free drinking water refill stations are available across campus, and these are listed on the [Refill app](#), allowing individuals to easily locate nearby refill points. We actively promote [conscious water usage](#) on campus with the Bottle Up campaign and Keep Cup initiative to increase the use of reusable cups and encourage sustainable water use. New buildings are designed to meet BREEAM Excellent standards, incorporating sustainable construction practices such as water conservation systems and rainwater harvesting. We also use AquaFund, a scheme that helps reduce water consumption and costs, while supporting WaterAid's mission to provide clean water to communities in need. In partnership with Hey!, we introduced a program to provide [free period products](#) to staff and students, further supporting accessibility and sanitation on campus.



## Education and student experience

The University of Liverpool offers a range of courses dedicated to water sustainability and environmental challenges, particularly focusing on issues like clean water access

and sanitation. One such course is the [Sustainable Water Engineering](#) module, which addresses critical aspects of water management, including flood risk prediction, water demand assessment, and the design of infrastructure for water storage and distribution. Additionally, the university's [Environmental Science BSc \(Hons\)](#) program provides a comprehensive study of major environmental issues, including water pollution, ecosystem degradation, and sustainability. This program emphasises practical experience through both fieldwork and laboratory experiments, allowing students to gain hands-on understanding of real-world environmental challenges, particularly those related to water resources. These programs equip students with the knowledge and skills needed to address complex issues in water sustainability and environmental management.

## Research and knowledge exchange

University of Liverpool researchers are tackling the root causes and solutions for SDG6, focused on clean water and sanitation, through a range of interdisciplinary studies. These include examining water, sanitation, and hygiene interventions in high-risk environments, such as a recent study, [Domestic River Water Use and Typhoid Fever Risk: Results from a Case-Control Study in Blantyre, Malawi](#), which provides critical insights into waterborne disease

prevention strategies. Additionally, the University's work on the [Mono Fluor](#) optical instrument represents a significant breakthrough in water quality assessment. This cost-effective, fluorescence-based tool enables real-time detection of contaminants, making it highly applicable in both advanced and resource-limited settings to enhance water security worldwide. Collectively, these projects underscore Liverpool's commitment to innovative, research-driven solutions that address both immediate and long-term water sustainability challenges.



## Case Study

### Improving sanitation in informal settlements

Researchers from the University of Liverpool's School of Architecture have pioneered innovative solutions to improve sanitation in informal settlements, focusing on low-cost, sustainable septic systems designed to mitigate waterborne disease risks. Collaborating with BRAC University and the Centre for Inclusive Architecture and Urbanism (Ci+AU), they conducted an ODA-funded project in Dhaka, Bangladesh. This project, titled [Improving Sanitation Safety Through Soft Engineering Design Solutions](#), addressed the sanitation challenges in Karail's informal settlement and the surrounding Banani Lake pollution. The research team closely analyzed toilet usage and resident mobility across mapped alleys, gaining insights crucial for designing locally viable sanitation solutions. In a further development, the researchers launched a new initiative to build a prototype of a communal solar-heated septic tank at a public school in Bhashantek. This system combines solar power with air-source heat pump technology to disinfect human waste, producing fertilizer as

a byproduct. This innovative, net-zero system aims to provide a sustainable and scalable sanitation solution, with plans for adaptation across other informal settlements and schools in ODA-listed countries, supporting public health while utilizing renewable energy sources.



## Case Study

### Rapid, low-cost water quality assessment for all

Researchers at the University of Liverpool have made significant strides in developing accessible, low-cost water quality assessment tools to tackle pressing global water security issues. Recognising the vast need for safe drinking water, highlighted by the 2.2 billion people who lacked access to safely managed drinking water in 2022, Liverpool's research team is addressing these challenges by creating rapid, real-time testing technologies essential for both developed and developing regions. Traditional pathogen detection methods, which can take over 30 hours, are often impractical for immediate public health needs, especially in resource-limited areas where delays can exacerbate waterborne disease risks. To provide a solution, Liverpool's researchers designed the [Mono Fluor](#), a portable optical instrument that uses fluorescence spectroscopy to assess water quality instantly. By detecting markers for microbial contamination and organic matter, the tool offers quick, reliable results without the need

for extensive sample processing, making it ideal for use in settings from urban utilities to rural communities. Mono Fluor's compact design and ease of use empower local communities by allowing non-experts to perform water testing, fostering greater public health independence and response capability. Future plans involve refining the device for broader use in utility monitoring in developed regions and adapting it for emergency response in areas with poor sanitation, with the ultimate goal of preventing outbreaks of diseases linked to unsafe water.

Read more about our impact in SDG6 on our [website](#).







# GOAL 7: AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all

## Operations

The University of Liverpool supports SDG 7 by advancing energy efficiency, reducing carbon emissions, and prioritising sustainable practices and ethical investments to promote clean and affordable energy. Our Combined Heat and Power (CHP) Energy Centre has played a vital role in reducing carbon emissions through the adoption of efficient energy technology. While this method of generating electricity is more sustainable compared to many alternatives, the use of gas still limits our ability to achieve our net-zero target. As a result, we are actively working towards **fully decarbonising our estate**. For new developments and campus renovations, we adhere to rigorous energy efficiency standards, with the aim of meeting BREEAM Excellent ratings. Furthermore, in line with our **Ethical Investment Policy**, the University excludes companies that derive a significant portion of their revenue from the extraction and exploration of fossil fuels, including thermal coal, oil, gas, and tar sands, from its direct investments.



university offers degrees such as **Energy and Environmental Management** which explore energy efficiency, renewable energy, and environmental sustainability. These programs emphasise the importance of reducing carbon emissions and developing sustainable energy solutions, preparing students for careers in the clean energy sector. Students study **Renewable Energy and Smart Grid** to develop their understanding of different renewable energy sources and the principle of energy conversion from renewable sources into

## Education and student experience

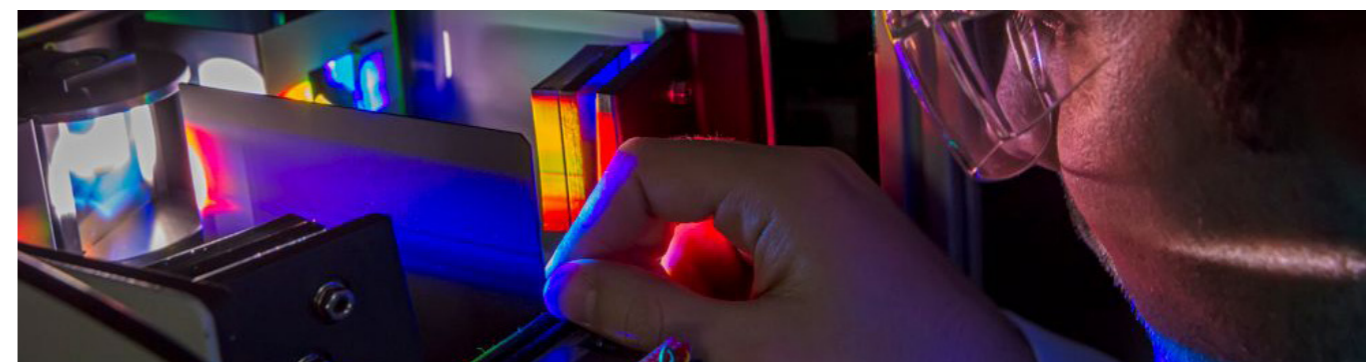
At the University of Liverpool, several courses and research initiatives are aligned with SDG 7, focusing on affordable and clean energy. These include both undergraduate and postgraduate opportunities in areas like energy systems, sustainability, and climate change. For example, the

electricity. Students can also support the aims and objectives of SDG 7 through extra-curricular activities, such as joining our Energy Services team for regular guided tours of the on-campus **Energy Centre**.

## Research and knowledge exchange

We are host to the first interdisciplinary centre dedicated to energy research in the North West, the **Stephenson Institute for Renewable Energy** which undertakes research into renewable energy sources such as hydrogen generation and storage, solar harvesting, wind and marine energy and fusion technology. A research paper **Fairness, Resilience and**

**Prosperity: Addressing energy and net zero challenges in Liverpool City Region**, produced for the Liverpool City Region APPG, discusses the challenges posed by rising energy prices and the transition to net zero. In **Experts explain why LPG is still Africa's best option for cleaner, greener cooking (for now)**, University researchers argue that while LPG is a fossil fuel, it remains Africa's best option for cleaner cooking due to its lower emissions compared to traditional fuels like wood and charcoal, and its practicality in addressing the region's urgent need for modern, affordable cooking solutions. Despite challenges in affordability, supply reliability, and donor reluctance, LPG offers significant health benefits and minimal climate impact, supporting a transition toward cleaner cooking while renewable energy alternatives are developed.



## Case Study

### Queen's Anniversary Prize for Chemistry

At the start of 2024, the University was awarded the **Queen's Anniversary Prize for Chemistry** at a Buckingham Palace ceremony, presented by Her Majesty The Queen and the Duchess of Gloucester. This prestigious accolade, the University's second Queen's Anniversary Prize, honours the Chemistry Department's pioneering research addressing global challenges. The prize acknowledges the department's groundbreaking work in low carbon energy, global health, and sustainable manufacturing. It highlights their significant impact through industrial and strategic partnerships, with a global reputation for excellence in research and innovation. The award follows a reception at London's Guildhall, attended by university representatives and industry partners. The award is a recognition of the department's world-class research and its positive impact on society and the economy. The Chemistry Department was ranked third in the UK for world-leading impact in the latest Research Excellence Framework (REF2021) and remains one of the top three UK institutions for

impact. Prime Minister at the time, Rishi Sunak congratulated the winners, noting their contribution to science, public health, and the economy. This prize is part of the Queen's Anniversary Prizes for Higher and Further Education, established in 1994 to recognize exceptional achievements by UK universities and colleges. The University previously won in 2017 for its Department of Molecular and Clinical Pharmacology.



## Case Study

### Boosting Kenyan efforts to combat air pollution

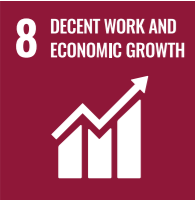
The University of Liverpool launched a new initiative to **tackle household air pollution (HAP) in Kenya** through a Memorandum of Understanding (MoU) with Kenyan government stakeholders. This program, called TABLE-HAP, will provide over 16,000 community groups with essential information to prevent HAP. The initiative aims to educate 40,000 people in Uasin Gishu County through trained Kenyan Community Health Workers, focusing on the health impacts of HAP and promoting clean household energy. TABLE-HAP leverages table-banking groups, which pool resources for loans, to empower communities with knowledge and resources for clean cooking, heating, and lighting. The Kenyan Ministry of Energy is involved in connecting commercial companies to the program to facilitate access to clean energy solutions. With more than 60% of Kenyans relying on traditional biomass fuels, TABLE-HAP is seen as a key strategy to address health issues such as respiratory illnesses and environmental degradation. The program aligns with

Kenya's goal to achieve Universal Access to Clean Modern Energy by 2028. The MoU was signed by Professor Dan Pope of NIHR CLEAN-Air(Africa), Uasin Gishu County Government representatives, and the MaMa Doing Good Foundation, led by Kenya's First Lady Rachel Ruto. The initiative builds on the **Community Household Air Pollution Prevention Programme (CHAP-PP)** and will be monitored by the University of Liverpool, Kenya Medical Research Institute, and Moi University. Additionally, the University signed a Memorandum of Intent with clean energy developer Ceres to expand research collaborations in advanced materials and fuel cell technologies. This partnership aims to accelerate the development of clean energy solutions and supports both institutions' commitments to innovation and sustainability.

Read more about our impact in SDG7 on our [website](#).







# GOAL 8: DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

## Operations

The University of Liverpool supports SDG 8 through initiatives that enhance employability, foster innovation, and drive sustainable economic development. Career services, internships, and entrepreneurship programs equip students with essential skills. Partnerships with businesses promote job creation and knowledge sharing, and the university's commitment to equality, diversity, and fair working practices ensures inclusive opportunities. Through enterprise hubs like the **Liverpool Knowledge Quarter** and support for start-ups, it boosts regional and global economic growth. As a major contributor to Liverpool City Region's economy, the university drives employment and investment on a significant scale. The **IP commercialisation team** has accelerated spin-out company growth, benefiting both society and the wider economy. Staff volunteering through the **Liv to Give** framework fosters innovation and cultural engagement while supporting community health, employment, and social mobility. Employment practices ensure safe, fair, and fulfilling jobs for all, guided by the university's **Values and Ethics Principles**. Recognitions such as **Living Wage Foundation** accreditation, the **Stonewall Diversity Champions** membership, and the **Silver Athena Swan Award** highlight our inclusive culture. The university also combats modern slavery, addresses the gender pay gap, and celebrates staff achievements with awards and networks fostering community.

## Education and student experience

The University of Liverpool plays a vital role in supporting the Liverpool City Region's social and economic development by equipping students and local young people with the skills and opportunities needed for meaningful employment. Through the efforts of our **Careers and Employability team**, we help students secure roles within the region, while our **apprenticeship programme**, the most successful in the university sector, provides pathways for local young people to join the University workforce. The **IntoUniversity Mentoring Scheme** allows students to mentor young people, helping to ensure that socioeconomic background does not limit their life opportunities. These efforts exemplify the University's commitment to fostering skills, resilience, and opportunity in alignment with sustainable economic growth. Additionally, our **GiveGetGo Volunteering Programme** offers training for local job seekers and guarantees interviews for all who complete the program. In summer 2023, our Libraries, Museums, and Galleries (LMG) launched the first-ever **Student Partners Project**, recruiting 18 talented students to help shape the library of the future. This initiative not only provided insights into the information and heritage sectors but also helped students develop transferable skills to support their academic and professional success. Students can also engage with SDG 8 through innovative modules like **Enterprise Studies**, which introduces entrepreneurial activity, and by participating

in impactful extra-curricular initiatives. **BA (Hons) Business Management** focuses on developing leadership, entrepreneurial, and management skills that are essential for driving economic growth and fostering the creation of decent work opportunities.

## Research and knowledge exchange

The University has retained the **European Commission's HR Excellence in Research Award** for 12 years, demonstrating its commitment to fostering a thriving research environment that aligns with the Researcher Development Concordat and supports research talent and career development as outlined in our **Strategy 2031**. Research on self-employment in **The self-employment trap** report reveals the challenges faced by self-employed workers, such as stagnating incomes, rising costs, and mental health struggles, emphasising the need for policies that promote economic stability, fair employment, and sustainable work models. Our research on youth entrepreneurship in the **Youth Entrepreneurship Policy: Contemporary Challenges and Ways Forward** policy paper, addresses barriers faced by young entrepreneurs, advocating for policy reforms that align support with their motivations, and promoting more inclusive, accessible, and diverse entrepreneurial opportunities to foster sustainable

and equitable economic growth. Research on **the value of the social economy in the Liverpool City Region** has spurred new strategic initiatives backed by the Metro Mayor and Combined Authority, fostering social enterprise growth and enabling long-term sustainable impact through collaboration among local politicians, policymakers, and social entrepreneurs.

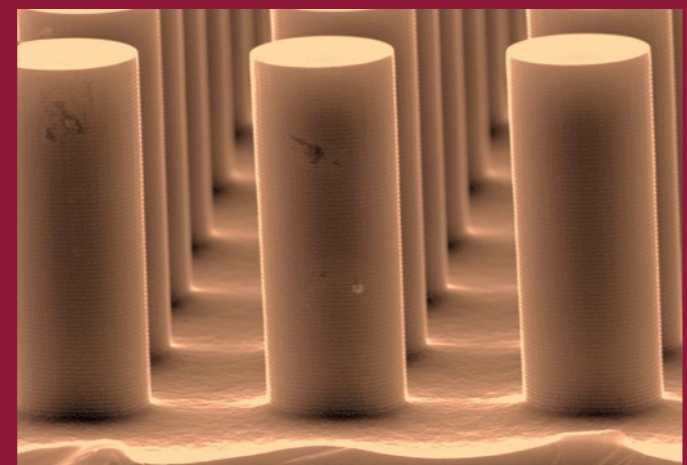


## Case Study

### Driving significant economic impact

A 2023 **economic review** revealed that the **National Biofilms Innovation Centre (NBIC)**, co-directed by the University of Liverpool and three other institutions, generated an economic impact of £204 million. The NBIC, a leading UK center for biofilms research, also created 101 jobs and supported 76 students, including 66 PhD candidates. Liverpool's role includes leading the Open Innovation Hub for Antimicrobial Surfaces, directed by Professor Rasmitta Raval. This hub focuses on developing new technologies to address biofilm and antimicrobial resistance. The review, conducted by Black Kite Ltd, highlights NBIC's substantial contributions to environmental and social benefits, totalling £53 million. The center engages over 300 businesses across sectors like health, personal care, water management, marine, and food production. The NBIC, funded by the Biotechnology and Biological Sciences Research Council (BBSRC) and Innovate UK, represents a model of interdisciplinary research and industry collaboration. Its work addresses key global

issues, including antimicrobial resistance, food safety, and water security. In May 2022, NBIC estimated that biofilm-related markets are worth £45 billion in the UK and \$4 trillion globally. In December 2022, further funding of £7.5 million was allocated to support Phase 2 of NBIC, aiming to enhance the adoption of innovative biofilm solutions and drive advances in standards and regulations.



## Case Study

### Supporting SME's to become a sustainable business

The University played a key role in supporting Buzz Education, an SME in Chorley, through a **Clean Growth Project** as part of the Eco-1 North West initiative. This £14 million project, which involves six partner universities, helps SMEs in the North West of England develop sustainable business solutions. Buzz Education worked with a specialist environmental researcher from the University's School of Environmental Sciences to assess their carbon emissions and create a tailored report with recommendations for reducing their carbon footprint. This collaboration allowed Buzz Education to take the first steps towards sustainability, with both short-term and long-term measures outlined, such as energy consumption reductions and plans for more energy-efficient office equipment. Through this project, the University helped Buzz Education develop a sustainability framework that will inform their long-term business activities and guide their "Buzz Does" strategy, focusing on environmental and social responsibility. This partnership not only supported Buzz Education's

sustainability journey but also demonstrated the University's commitment to fostering sustainable practices in SMEs across the region.

Read more about our impact in SDG8 on our [website](#).





# GOAL 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation

## Operations

The University supports SDG 9 by focusing on innovation, industry collaboration, and enhancing infrastructure. It operates world-class research centres like the **Materials Innovation Factory (MIF)** and the **Digital Innovation Facility (DIF)**, which drive industrial innovation through advanced research on sustainable materials and healthcare technologies. The University partners with businesses, startups, and SMEs through initiatives like **Eco-I North West** to bridge academic research with real-world industrial applications, fostering resilient industries. Additionally, the University plays a key role in the development of the **Knowledge Quarter Liverpool**, providing state-of-the-art research and innovation spaces like the **HEMISPHERE**, which will support the growing demand for advanced infrastructure in life sciences, chemistry, and technology. Innovation and industry growth are integrated into the University's daily activities, contributing to sustainable economic development.

## Education and student experience

The University offers several courses that focus on industry, innovation and infrastructure, particularly in fields related to technological advancements and sustainable practices.

Notably, programs like, **Building Information Modelling and Digital Transformation** delve into the impact of digital technologies on the architecture, engineering, and construction industries. This course equips students with expertise in innovative tools like BIM software, which fosters industry collaboration and transforms project planning and delivery through digital design and automation. Additionally, the University supports students in exploring industrial innovation through partnerships with industry bodies, such as the **Virtual Engineering Centre**, where students can engage in real-world challenges and digital transformations. Furthermore, programs in fields like environmental sciences, engineering, and energy management provide students with the skills necessary to drive sustainability within industries. We support entrepreneurial students by offering advice and opportunities for financial backing through the **Design Your Future** programme, which helps fund and develop business ideas. Additionally, students can apply for awards ranging from £500 to £5,000 through the **Enterprise Fund** to further develop existing or early-stage business concepts.

## Research and knowledge exchange

Our **digital innovation** capabilities bridge the gap between



academia and industry, driving commercial advantage through collaboration and innovation in our facilities. The **Materials Innovation Factory** is a unique materials

chemistry research hub, providing an unparalleled suite of state-of-the-art equipment and internationally leading academic expertise, establishing a vibrant dynamic research community. By providing open access to equipment, the MIF provides opportunities for local industry to accelerate their discovery process and reduce time to market, delivering clear economic benefits to the region. The **Digital Innovation Facility** is a centre of excellence in simulation and virtual reality, bringing together complementary areas of research of computer science, robotics and engineering. Our **Virtual Engineering Centre** leads in the integration and exploitation of virtual engineering technologies such as advanced modelling and simulation. Recent research published in the journal Nature **Optimality guarantees for crystal structure prediction** could signal a step change in the quest to design the new materials that are needed to meet the challenge of net zero and a sustainable future. The paper **Superionic lithium transport via multiple coordination environments defined by two anion packing**, published in Science, discovered a solid lithium-ion conductor made from non-toxic, earth-abundant elements, offering a safer, higher-capacity alternative to liquid electrolytes in rechargeable batteries, potentially transforming energy storage for electric vehicles and electronics.

### Case Study

## Revolutionising AI software

Researchers at the University of Liverpool, in collaboration with IBM, developed an AI assistant to assist synthetic chemists in discovering cost-effective methods for creating organic molecules. Published in **Nature Chemistry**, the study described how the AI software used Bayesian optimisation to recommend the next experiments based on prior results. The system helped create a catalyst formulation for carbon-carbon bond formation that replaced the expensive metal iridium. Professor Andrew Cooper emphasised that while Bayesian optimisation is effective, it must incorporate fundamental chemical principles to avoid inefficient trials. This AI tool guided researchers through 107 experiments, reducing the number of potential combinations to discover iridium-free catalysts. This advancement in computational techniques promises significant improvements in optimising chemical reactions.



### Case Study

## Driving success at LCR Innovation Investment Week

The University of Liverpool played a pivotal role in the inaugural **Liverpool City Region (LCR) Innovation Investment Week**, held from May 14–16, 2024. The event showcased local and global innovation opportunities, highlighting the University's involvement in several key initiatives. This included supporting the launch of the Life Sciences Investment Zone, which aims to attract £800 million in investment and create 8,000 jobs. The University also hosted a reception at the Materials Innovation Factory (MIF), where Professor Matt Rosseinsky presented on digital tools in material science. The week featured a Dragons' Den-style pitching event, where innovative University spin-outs like AI Sight Ltd presented their ideas to investors, and the University contributed to the Pint of Science festival with over 40 academics engaging the public in scientific discussions. Additionally, Professor Andrew Owen spoke at the Bionow Pharma Manufacturing Conference on new technologies developed at the University's

Centre of Excellence for Long-acting Therapeutics. The week underscored the University's commitment to driving regional innovation, strengthening ties between academia, industry, and the community to foster economic growth.

**Read more about our impact in SDG9 on our website.**







# GOAL 10: REDUCED INEQUALITIES

Reduce inequality within and among countries

## Operations

The University is committed to providing an environment which recognises, values, respects and celebrates people's differences and strengths. Equality, Diversity and Inclusion (EDI) are at the heart of all we do. The **Equality, Diversity, and Inclusion Committee** drives efforts to cultivate a supportive and inclusive culture for staff, students, and visitors. The **Equality Objectives Action Plan (2022-2028)** prioritises progress in four critical EDI areas, informed by data trends and community feedback, to create a more inclusive university experience. Staff **equality networks** facilitate informal networking, peer support, and event organisation



to strengthen inclusivity. Disability Coaches provide tailored assistance, while the University actively dismantles gender barriers and supports the LGBTQIA+ community through projects like **PINKBRICK**, which examines the evolving societal attitudes toward LGBTQ+ individuals over the past four decades. Race equality remains a top priority, with initiatives to tackle racial harassment and foster inclusivity, including participation in the **Advance HE's Race Equality Charter (REC)** and the **Diversifying Leadership** programme. Additionally, the University is addressing the gender pay gap and has expanded the **2023 report** to cover ethnicity, disability, and sexuality pay gaps, reflecting its commitment to equity and accessibility across all levels. Through these measures, the University affirms its dedication to a culture where everyone can thrive.

## Education and student experience

The University of Liverpool offers a variety of courses and programs that align with SDG10. These include modules aimed at fostering inclusivity, addressing systemic disparities, and empowering diverse communities. **Sociologies of Class and Inequality** equips students with theoretical and empirical tools to analyse class-based inequalities, exploring their historical and contemporary contexts, connections to broader structures of exclusion, and fostering critical, analytical, and reflective skills. Modules like **Diversity Management and Inclusion** critically explore managing diversity across dimensions like race, gender, and disability while promoting equality in organizational settings. This module explicitly supports SDG 10 through its focus on

creating inclusive workplace cultures and tackling systemic inequality. The University runs projects to widen access for underrepresented groups in higher education, including students from disadvantaged backgrounds, care leavers, disabled students, and ethnic minorities. Support includes hardship funding, short-term loans, and debt advice for students facing financial difficulties. The **Fast Trackers** mentoring programme helps Year 11 students from Somali, Yemeni, and Black British backgrounds maximise their GCSE performance. Additionally, the **Liverpool Scholars Programme** offers Year 12 students from diverse backgrounds activities to aid their higher education aspirations. Young Adult Carers studying at the University can gain paid work experience as Student Advocates or Mentors, supporting local pupils while developing skills for the graduate job market.

## Research and knowledge exchange

**The Heseltine Institute for Public Policy, Practice and Place** works to address regional inequalities and promote inclusive, sustainable solutions through interdisciplinary research in public policy, economic development, and urban governance. Its research tackles disparities in productivity, income, health, and employment across the UK, focusing on inclusive growth, skills development, and devolution. The Institute's work on public service reform aims to enhance the impact of services, particularly in social and economic contexts. By focusing on sustainable cities and regional revitalisation, it contributes to creating more equitable, resilient communities.

Notable research, including on **poverty dynamics** and **LGBT homelessness**, influences policy to reduce health and social inequalities. Additionally, the **Social Broadband** project explores the potential for providing free or subsidised broadband to low-income communities as a solution to digital poverty, focusing on overcoming barriers such as cost, access, and skills.



## Case Study

### Tackling race inequality and discrimination in organisations

**Research at the University's Management School** has been crucial in addressing racial inequality in organisations, with a particular focus on the NHS. By exploring the experiences of Black and minority ethnic (BME) employees, the research has highlighted issues like microaggressions, bullying, harassment, and career barriers, advocating for long-term, tailored strategies to create more inclusive workplaces. Activist movements such as #SayHerName and Black Lives Matter have brought attention to these ongoing racial challenges, prompting organisations to act. This work has informed several key initiatives, including the NHS Workforce Race Equality Standard and the Mersey Care NHS Foundation Trust's WRES Culture Change Programme, which seeks to improve racial representation and reduce discrimination within NHS trusts. The research has also led to the development of the Workplace EDI website, providing managers with resources on equality, diversity, and inclusion. In the private sector, the NWBLT has used this research to

develop strategies for promoting racial inclusivity among its corporate members, with insights shared at the She Leads For Legacy Conference. Additionally, the NHS Mersey Care Anti-Racist Evaluation Project is using this research to refine its anti-racist strategies, ensuring their effectiveness through independent evaluations.



### Reducing inequalities in the Liverpool City Region

The University of Liverpool's Heseltine Institute launched **A Manifesto for Liverpool City Region** ahead of the 2024 elections to tackle critical policy challenges, focusing on reducing inequalities and addressing stark health disparities across the region. Professors Louise Kenny and David Taylor-Robinson highlighted persistent inequalities, referencing reports like Child of the North that expose the UK's health inequality crisis. The manifesto also covered strategies for promoting inclusivity and cultural vibrancy, with input from Dr. Richard Benjamin and Laura Pye, CEO of National Museums Liverpool, emphasising culture's unifying power. It addressed systemic issues such as housing, social care, and restoring trust in democracy, as discussed by Professor Stuart Wilks-Heeg. Vice-Chancellor Professor Tim Jones reinforced the University's dedication to collaborating with local partners to create positive change, demonstrating the role of academic expertise in shaping public policy and fostering greater equity and opportunity in the Liverpool City Region.

Read more about our impact in SDG10 on our [website](#).





# GOAL 11: SUSTAINABLE CITIES AND ECONOMIES

Make cities and human settlements inclusive, safe, resilient and sustainable

## Operations

The University of Liverpool supports SDG 11 by promoting cultural heritage, sustainable development, and community engagement through accessible public spaces, innovative events, and eco-friendly initiatives that enhance urban sustainability and connectivity. As a civic university rooted in a global city, our stewardship and promotion of heritage collections and cultural initiatives are intrinsically linked with the communities we serve. Our cultural institutions, including **museums and galleries** like the **Victoria Gallery and Museum**, celebrate both our heritage and that of our city. These vibrant spaces are filled with diverse exhibitions and stories that inspire creativity and enrich the learning experiences of our students and the wider community. We provide free public access to our libraries, museums, catering facilities, buildings, and green spaces across campus. Regular events, including concerts, tours, exhibitions, and both free and ticketed programs, further connect us to the public. The weekly **Lunchtime Concert** series, held in the state-of-the-art **Tung Auditorium**, offers a remarkable opportunity for everyone to experience world-class acoustics at no cost. With 97 public events attracting over 20,000 attendees, the Tung Auditorium has become a key addition to the city's cultural landscape. In support of SDG11, our efforts in the built environment reflect our commitment to sustainable progress. New constructions and refurbishments are designed to

achieve **BREEAM Excellent** standards, and our Sustainable Built Environment Investment Framework embeds key sustainability principles into every stage of development. Sustainable travel is another cornerstone of our commitment to reducing carbon emissions, improving air quality, easing traffic congestion, and fostering stronger communities. To support this, we offer a range of **initiatives**, including a Season Ticket Loan scheme and a Cycle to Work Scheme, alongside bike hire programs, free maintenance sessions, beginner-friendly events, and city bike tours. Our annual Travel Survey for staff and students, helps us to identify opportunities for enhancing sustainable travel services, aiming to deliver broader benefits for the city.

## Education and student experience

Students can engage with specialised course modules such as **Climate Resilience and Environmental Sustainability in Architecture** or **Architecture and Urban Design**, which emphasise sustainable construction practices and urban regeneration strategies. These programs align closely with the objectives of SDG 11, aiming to create cities that are inclusive, safe, resilient, and sustainable. Additionally, the **The Beatles: Music Industry and Heritage MA** offers a unique opportunity to explore the cultural and economic impact of The Beatles. This program examines their legacy in shaping tourism and heritage sectors at local, regional, and national

levels, celebrating the city's rich musical heritage and the global significance of the Beatles story.

## Research and knowledge exchange

The **Heseltine Institute for Public Policy, Practice, and Place** unites academic expertise from across the University with policymakers and practitioners to advance sustainable and inclusive urban development. Its **Sustainable and Resilient Cities** research theme focuses on prompting, informing, and catalysing innovative approaches to resilient city-building. Through the **Heritage Research Theme**, the Institute collaborates with regional organisations to shape public policy, education, and sustainable tourism strategies in Liverpool and beyond. The **20-minute city: An equity analysis of Liverpool City Region** examines the feasibility of 20-minute neighbourhoods in the Liverpool City Region, analysing their alignment with socio-spatial inequalities to evaluate the equity of access to local amenities and active travel infrastructure. The **Music matters** research highlights music's profound ability to connect individuals with history, culture, and memory, using it as a medium to delve into themes of ageing, diversity, and autobiographical experiences. This includes pioneering initiatives such as Liverpool's designation as a UNESCO City of Music, alongside innovative projects that address ageism and dementia through the integration of digital tools, fostering transformative partnerships across cultural and social sectors.



## Case Study

### Transforming community asset development

The University of Liverpool, in partnership with Safe Regeneration, launched the **Neighbourhood Transformation Planning Tool (NTPT)**, an innovative online resource designed to assist community groups in developing local assets. The launch event was attended by over 40 community partners and celebrated a new approach to supporting community-driven asset development. Funded by Research England through the University's Public Policy Quality Related Scheme,

the NTPT enhances social responsibility and inclusion by simplifying the process of transforming buildings and land into valuable community assets. These assets, such as parks, housing, and cultural spaces, serve local needs and improve quality of life, fostering a sense of belonging and community pride. The NTPT helps communities manage over 700 identified potential sites in the city region and thousands more nationally. The tool supports the development of spaces that generate sustainable income, reducing reliance on grants and donations. The tool's co-production design incorporates community experiences to ensure accessibility and relevance, maximising its potential impact and the diverse range of community assets it will support.



## Case Study

### Transforming Liverpool museums

The University of Liverpool's School of Architecture partnered with the renowned design firm Feilden Clegg Bradley Studios on a major £58 million **redevelopment of the International Slavery Museum and Maritime Museum**. As part of the broader Waterfront Transformation Project, this initiative aims to rejuvenate the area between the Royal Albert Dock and Mann Island. Led by FCBStudios partner Kossy Nnachetta, the team also includes experts from the University's School of Architecture, such as Professor Ola Uduku, Professor Ilze Wolff, and PhD candidate Kudzai Matsvai. Their combined expertise in gender, race, slavery, and colonialism is integral to creating inclusive, transformative spaces. The redevelopment will see significant improvements, including the enhancement of the Dr Martin Luther King Jr Building as a new entrance to the International Slavery Museum and the upgrade of the Hartley Pavilion to provide better visitor facilities, such as a café, shop, and exhibition space. The goal is to create dynamic, welcoming environments that not only address contemporary issues but also elevate the museums' national collections. The project offers a unique opportunity to craft spaces that will

express profound historical narratives and emotions, marking a bold, community-driven architectural transformation.

Read more about our impact in SDG11 on our [website](#).





# GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

## Operations

The University of Liverpool supports SDG 12 by adopting sustainable **procurement practices**, responsible waste management, and initiatives that foster a circular economy, reducing waste and enhancing resource efficiency across campus. Key initiatives include redistributing furniture, reselling surplus laboratory equipment, fostering a culture of refill and reuse to combat single-use plastics, donating leftover food to the student food pantry, and installing bins for cigarette and chewing gum litter. In collaboration with the University's main waste contractor, Suez, we are focused on reducing waste generation and increasing recycling rates. As of September 2024, we've successfully reduced general waste sent for incineration by 583.749 tonnes, or 43.11%, surpassing our target for a 50% reduction in general waste.

In 2023, we introduced a **Sustainable Food and Drink Policy** and committed to sustainable procurement and responsible waste management within our Catering Services. This policy led to the introduction of food waste recycling across all catering outlets and accommodation buildings, diverting 54.55 tonnes of food waste from general waste. In addition, the **Leave Liverpool Tidy** campaign collected 443 bags of donations for the British Heart Foundation, diverting 3.54 tonnes from waste, and we gathered 100 trays (741 kg) of food for FareShare, which provided 1,764 meals that would otherwise have been discarded. Since the launch of its pilot programme in 2021, over 140 laboratories at the University of Liverpool have committed to the **Laboratory Efficiency Assessment Framework (LEAF)**, with six labs achieving Gold status in 2023/24.



## Education and student experience

The University supports SDG 12 through education and student engagement by offering innovative modules that explore topics like **Consumer Behaviour** and **Environmental Science**. The Guild of Students **provides numerous opportunities** for students to actively participate in promoting responsible consumption and sustainable practices. Initiatives like becoming a Flat Sustainability Champion, encouraging energy-saving and recycling in student accommodation, recycling audits, sustainable crafting, litter picks, food growing, and the Student Switch Off campaign. Our MSc Project Management students recently reached the APM Challenge finals with a **project on student waste prevention**. These activities encourage mindful consumption and contribute to a more sustainable campus culture.

long-term environmental impacts. Researchers are exploring alternative methods such as reusing, recycling, refurbishing, and resource-sharing to create more sustainable production and consumption systems. The Management School's **Centre for Sustainable Business** is at the forefront of this effort, conducting research on sustainable business practices, resource efficiency, and minimising unnecessary consumption. Their work is centred on raising awareness among businesses and consumers about the environmental impacts throughout a product's lifecycle. Specifically, the **Responsible Consumption & Circularity research theme** investigates sustainable forms of consumption and production models that extend the product lifecycle, to reduce unnecessary waste and overuse of finite resources.

## Research and knowledge exchange

The University is advancing SDG 12 through a range of innovative research initiatives aimed at fostering sustainable consumption and circular economy models. A major focus of this research is on promoting responsible consumption and circularity, emphasising the extension of product lifecycles and the reduction of waste. This approach challenges traditional linear production models, which often overlook



### Case Study

## Overcoming challenges in sustainable plastic packaging

A University of Liverpool-led project, in collaboration with the University of Manchester, Unilever, and IPL Brightgreen, has been tackling the challenges of **producing more sustainable plastic packaging for fast-moving consumer goods**. The three-year initiative focuses on increasing the use of recycled resins in packaging without compromising quality and performance. The team have developed a framework to understand the economic, social, and environmental impacts of circular supply chains for recycled plastics. This Natural Environment Research Council-funded project aims to create smarter, sustainable packaging by 2025, reducing plastic pollution through cleaner supply chains. Despite the benefits of thermoplastics, such as their durability and low weight, the recycling of petroleum-based plastics is limited due to quality degradation during the recycling process. Challenges include the higher cost of recycled resins and the difficulty in maintaining performance with increased recycled content. The research also addresses supply chain

disruptions, including sorting complexities and maintaining supply of specific plastic grades. The project aims to develop a profiling framework to assess how different recycled plastic configurations perform under various scenarios. This framework will help define industry-led quality standards, increase the market value of recycled plastics, and support the development of standardized tests for post-consumer recyclates (PCR). Ultimately, the project seeks to overcome the economic and technical barriers to using recycled plastics, promoting more sustainable packaging solutions in the FMCG sector



### Case Study

## Advancing sustainability in manufacturing

The University of Liverpool became a key partner in the **£11 million Sustainable Chemicals and Materials Manufacturing Hub (SCHEMA)**, a research initiative led by the University of Oxford. Funded by the Engineering and Physical Sciences Research Council (EPSRC) and supported by £22 million in partner commitments, SCHEMA aims to revolutionise the design, production, and recycling of chemicals and polymers, moving away from virgin petrochemicals and enhancing recycling rates. Liverpool's involvement is spearheaded by researchers from the Department of Chemistry and the Materials Innovation Factory. The work focuses on developing digital tools to create sustainable materials, contributing to broader efforts to achieve net zero. The Liverpool team will utilise the university's automated and digital discovery capabilities to identify new, sustainable manufacturing pathways and evaluate catalysts for industrial use. SCHEMA also involves researchers from the Universities of Bath, Cardiff, York, and Cambridge, collaborating across sustainable

chemistry, process engineering, polymer science, and digital technologies. The research emphasises the importance of achieving net zero emissions in the chemical industry, which underpins many essential sectors. SCHEMA is one of five EPSRC-funded hubs aimed at fostering innovation and sustainability in manufacturing.

**Read more about our impact in SDG12 on our website.**







# GOAL 13: CLIMATE ACTION

Take urgent action to combat climate change and its impacts

## Operations

The University of Liverpool is actively supporting SDG 13 through comprehensive energy and carbon monitoring across its entire estate, as part of our **Climate Plan** and Sustainability Strategy, aligned with the Liverpool 2031 net zero targets. In January 2024, we adopted the sector-specific **Standardised Carbon Emissions Framework** (SCEF) to establish baselines and track carbon emissions across all three scopes. Our scope 1 and 2 emissions are being addressed through a new Energy Strategy, informed by internal energy audits and an external review by Ramboll as part of our decarbonisation programme. Additionally, we are working to reduce scope 3 emissions, which include those from commuter and business travel, waste, water usage, and procured goods and services. In line with our Ethical Investment Policy, we have implemented a full fossil fuel exclusion to support our broader sustainability efforts. These actions contribute directly to our commitment to mitigating climate change.

## Education and student experience

The University of Liverpool supports SDG 13 by equipping students with knowledge and opportunities to address climate change, fostering research, education, and student-led initiatives that promote sustainable actions and climate resilience. The **School of Environmental Sciences** examines the planet from its atmosphere to its deep Earth, exploring how societies, communities, and ecosystems respond to

environmental, economic, and social change. Our curriculum equips students with essential knowledge on climate change impacts and policy decisions, through modules like **Climate Change – A Critical Review** and Ecology and Conservation.



Students are also encouraged to contribute to SDG 13 through the **Student Sustainability Network**, which plays an active role in raising awareness and promoting sustainable actions. During **Sustainability Week 2024**, students participated in a guided tour of the University's Energy Centre, gaining a deeper understanding of the challenges universities face in adapting to future energy needs, climate change resilience, and achieving net zero carbon. Additionally, our academics delivered an insightful lecture on the science of climate change. The Guild of Students supports climate action through its **Climate Action Network**, connecting students passionate about climate change.

## Research and knowledge exchange

The University of Liverpool's newly established **Interdisciplinary Centre for Sustainability Research** (ICSR), brings together researchers from diverse fields to address the Sustainable Development Goals (SDGs). With an initial focus on climate-related SDGs, the Centre drives innovative collaboration and interdisciplinary research, leveraging the University's expertise in digital solutions and innovation. ICSR aims to produce world-leading research outputs and foster global impact through partnerships with national and international experts, as well as external funders. Its **Climate Futures** research theme tackles the global climate crisis through high-quality, multidisciplinary efforts in climate science, emissions reduction, energy transition, food sustainability, air quality, materials discovery, behavioural

insights, and sustainable technology development. Collaborating with partners across all scales, the Centre works to understand climate impacts, create solutions for environmental challenges, and support the transition to a low-carbon society. Through funded research, policy engagement, and contributions to international climate negotiations, ICSR provides thought leadership and evidence-based strategies to inform the public and policymakers on addressing climate change.



## Case Study

### Scaling up green prosperity

The Heseltine Institute for Public Policy, Practice and Place collaborated with the All-Party Parliamentary Group (APPG) for the Liverpool City Region (LCR) to develop a **Net Zero Manifesto** entitled **Scaling Up Green Prosperity**. Launched at Parliament, the manifesto presents a roadmap for achieving green growth and maximising the LCR's potential in line with the UK government's goal of net zero by 2050. Metro Mayor Steve Rotherham has set a more ambitious target for the LCR to become carbon neutral by 2040 or sooner. The manifesto calls for enhanced government support and local flexibility to meet the region's energy, housing, transport, skills, and innovation needs. It emphasises the necessity for a stable national policy framework to facilitate effective local action, including investment in energy infrastructure and skills development. The research also stresses the importance of deeper devolution to grant the LCR greater policy and fiscal autonomy for a unified approach to achieving net zero. Contributing to the manifesto demonstrates the University's important role in advancing net zero innovation. The Heseltine Institute serves as the academic partner for the Liverpool City Region APPG, providing research briefings and supporting the city-region's voice in Westminster.



## Case Study

### COP28 Climate summit

In November 2023, the University of Liverpool hosted a **summit featuring leading UK climate experts** in anticipation of the 2023 UN Climate Change Conference (COP 28). The event focused on the science and societal impacts of climate change and strategies for driving action. Key speakers included Professor Sir David King, former Government Special Representative for Climate Change and Chair of the Climate Crisis Advisory Group; Gideon Henderson, Professor of Earth Sciences at Oxford University and Chief Scientific Adviser at DEFRA; and Professor Elizabeth Robinson, Director of the Grantham Research Institute on Climate Change and the Environment. Liverpool's own climate researchers, such as Professor Anna Slater, Dr. Raj Whitlock, Professor Alex Cowan, and others, also contributed, discussing topics ranging from Arctic ocean changes to sustainable chemistry. Professor King introduced the Climate Crisis Advisory Group's '4R' planet strategy, while Professor Robinson addressed the intersection of climate change and health, and Professor Henderson covered DEFRA's climate science approach. Vice-Chancellor, Professor Tim Jones praised the event for showcasing both

external expert insights and internal research innovations. He emphasised the University's commitment to sustainability through its new Strategy 2031, aiming to advance environmental and social equity through education, research, and operations.

**Read more about our impact in SDG13 on our website.**







# GOAL 14: LIFE BELOW WATER

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

## Operations

The University actively supports SDG 14 through sustainable campus practices that reduce our environmental impact on aquatic ecosystems. Key initiatives include the significant reduction of single-use plastics, such as eliminating plastic straws, bottles, and packaging across campus, helping to prevent plastic waste from entering waterways. We have implemented advanced water management strategies, including improved drainage systems and sustainable urban drainage solutions, to minimise harmful runoff and reduce pollutants. Recycling and waste reduction programs further

promote responsible disposal practices to mitigate marine pollution. Our [Sustainable Food Policy](#) excludes fish species identified as most at risk by the Marine Conservation Society and ensures seafood is sourced solely from sustainable suppliers certified by the [Marine Stewardship Council](#), supporting fish stock preservation and marine biodiversity. Through the [LEAF](#) program, the University is also reducing single-use plastics in laboratories while fostering a campus-wide culture of refill and reuse. In addition, educational efforts raise awareness about plastic use, reduction, and recycling, reinforcing its commitment to protecting marine environments.



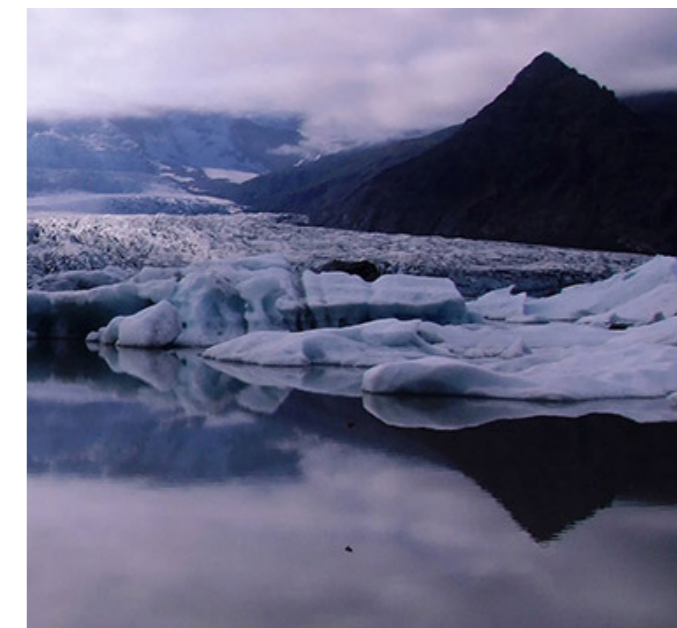
## Education and student experience

The University of Liverpool integrates SDG 14 into its education and student experience by equipping students with the knowledge and skills to protect marine ecosystems and promote sustainability. This includes curriculum modules on marine conservation, oceanic climate impacts, and sustainable resource management, alongside interdisciplinary courses linking marine health to broader sustainability goals, such as [Contemporary Issues in Ocean and Climate Sciences](#), and [Marine Biology with Oceanography](#). Students gain hands-on experience through research projects, fieldwork, and internships focused on marine biodiversity, pollution reduction, and sustainable technologies. Campus initiatives, such as campaigns to reduce single-use plastics, events, workshops, and student societies raise awareness and inspire advocacy for aquatic life conservation.

## Research and knowledge exchange

The University of Liverpool actively supports SDG 14 through research addressing marine ecosystem challenges. Recent studies from the [Department of Earth, Ocean, and Ecological Sciences](#) explore the effects of climate change, pollution, and human activity on marine biodiversity. Research areas include sustainable fisheries management, climate-driven oceanic changes, and the development of innovative methods to reduce plastic and chemical pollution in aquatic

environments. The [Liverpool Institute for Sustainable Coasts and Oceans](#) combines the coastal, marine and maritime expertise of Liverpool John Moores University, the National Oceanography Centre and the University to bring the natural and social sciences together for the future well-being of the coasts and seas. Research under this theme focuses on the role of the oceans in Earth's climate, and on how our changing climate will affect the ocean and ocean ecosystems.



### Case Study

## Arctic research expertise

In 2024, the [University of Liverpool joined the University of the Arctic](#) (UARctic), a global network dedicated to Arctic research and addressing challenges faced by Arctic societies. Established in 2001, UARctic connects nearly 200 institutions across 24 time zones in eight Arctic countries and beyond, offering unique opportunities for collaboration in education, research, and innovation. Liverpool's membership reflects the University's extensive Arctic expertise. The University has significant projects focusing on Greenland and Nunavut's changing ice masses, Arctic seabird behaviour and conservation through the SEGUL group, and the polar oceans' role in global climate systems. In June, the University hosted UARctic President Lars Kullerud and Secretary General Outi Snellman. During their visit, Professor Doug Mair and other researchers presented Liverpool's Arctic research strengths, including glaciology, marine spatial planning, and Arctic ecosystem changes. Professor Mair expressed enthusiasm for the new affiliation, highlighting it as a valuable opportunity to enhance Liverpool's Arctic research and teaching collaborations. The membership is expected to foster mutually

beneficial partnerships that support both Liverpool and the broader UARctic network.



### Case Study

## Addressing ocean warming impacts

University of Liverpool marine biologists were at the forefront of research shedding light on the severe impacts of record-breaking ocean temperatures. A [BBC analysis](#) highlighted that the world's oceans have consistently set daily temperature records over the past year, a phenomenon driven by climate change and amplified by the El Niño effect. Dr. Nova Mieszkowska, a leading researcher at the University, explained that the rapid warming has caused significant disruptions in coastal marine life, with certain species disappearing from UK waters. The heat has led to widespread coral bleaching and threatens the habitats of species like the emperor penguin. Data from the EU's Copernicus Climate Service, revealing a new global sea surface temperature high of 21.09°C in early 2024, highlighted the growing urgency of the situation. Dr. Mieszkowska emphasised that the pace of climate change is outstripping the evolutionary adaptations of marine species, resulting in ecological imbalances and the spread of invasive species that disrupt native ecosystems.

This research highlights the need for global action to combat climate change and its detrimental effects on marine environments, contributing to a broader understanding of how shifting oceanic conditions are impacting biodiversity and ecosystems worldwide.

[Read more about our impact in SDG14 on our website.](#)







# GOAL 15: LIFE ON LAND

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

## Operations

The University's [Climate Plan](#) outlines key principles to guide our climate response, including a commitment to enhancing campus resilience through improved biodiversity. Our estate is remarkably diverse, encompassing a wide range of habitats such as urban environments, amenity land, woodlands, pastures, agricultural land, formally landscaped areas, and a botanic garden. [Ness Botanic Gardens](#) hosts a wide variety of amphibians, birds, insects, mammals, and reptiles within a network of diverse ecological niches. Ness Gardens upholds a mission rooted in research, education, and conservation. Its extensive plant collection, which includes many endangered species, provides unique opportunities for learning and discovery. We are proud to be a gold-accredited member of the [Hedgehog Friendly Campus Scheme](#) and have Bioscope NatureArks and wild pod planters installed across our Liverpool campus. These innovative habitats support a variety of wildlife, including bees and hedgehogs. We also grow food on our campus garden, and herb wall garden. To further support biodiversity, we have adopted a relaxed mowing regime for three large grassland areas, allowing meadow vegetation to flourish and creating habitats for a wider range of plant and animal species. Looking ahead, the University will publish a new Biodiversity Plan in early 2025, which will detail our principles, commitments, and actions to combat biodiversity loss, assess the impact of our activities, and enhance biodiversity both on our campuses and beyond.

## Education and student experience

Life on land affects us all, and students at the University of Liverpool can explore the human impact on the environment and ways to mitigate it through a range of opportunities. Courses such as, [Global Environmental Crimes and Justice](#), examines the role of criminology in addressing transnational crimes affecting biodiversity, focusing on state and non-



state cooperation, criminal networks, and conservation strategies. [Environmental Science](#) includes modules like Environmental Sustainability, which addresses global environmental challenges, including biodiversity loss, while developing strategies for sustainable solutions. There are also many opportunities for students to get involved outside of their studies, such as urban food growing, permaculture and biodiversity at the weekly gardening sessions, herb pot planting, and microgreens growing with the [Guild of Students](#). At [Ness Botanic Gardens](#), students have the opportunity to deepen their understanding of biodiversity through gardening courses, creative workshops, and nationally recognised RHS qualification programs.

## Research and knowledge exchange

Ness Botanic Gardens supports SDG 15 through its vibrant [research portfolio](#). The gardens, covering 64 acres, house over 10,000 plant species, with extensive collections that study the effects of climate change on wild plants. Research at Ness includes investigations into how climate warming impacts ponds and shallow lakes, as well as the use of aquaponics systems for sustainable food production. The site also supports various habitats that sustain diverse wildlife, including amphibians, birds, insects, and mammals. The [Buxton Climate Change Impacts Lab](#) investigates the effects of climate change on UK grasslands, offering vital insights into

plant, soil, and fauna responses. Furthermore, the [Mammalian Behaviour and Evolution Group](#) focuses on how animals adapt to environmental changes, supporting conservation efforts like captive breeding and invasive species.



## Case Study

### Reassessing restoration practices

A [study](#) led by the University of Liverpool revealed that misguided reforestation efforts across Africa could jeopardise vast areas of tropical grasslands. Published in *Science* in 2024, the research highlighted that many reforestation projects, which are intended to restore forests, are targeting non-forest systems like savannas and grasslands. This misclassification threatens these ecosystems, which are distinct from forests in structure and function. The study showed that large-scale tree planting in these non-forest areas, which are vital habitats for wildlife such as rhinos and wildebeest, and crucial to local human communities, could disrupt their ecological balance. Researchers emphasised the importance of tailoring restoration efforts to the specific needs of each ecosystem. Savannas and grasslands, misclassified as needing reforestation, are at risk due to inappropriate interventions. The research highlights the rush for large-scale tree planting may lead to poorly assessed projects that offer minimal carbon sequestration benefits while potentially causing ecological and social harm. The issues raised are not limited to Africa but also affect similar non-forest areas

in countries like India and Brazil. The paper, titled [Conflation of reforestation with restoration is widespread](#), calls for a reassessment of restoration practices to avoid endangering these critical ecosystems.



## Case Study

### Tackling the biodiversity crises

On November 1st, 2023, the [Buxton Climate Change Impacts Lab](#), the world's [longest-running climate change experiment](#), celebrated its 30th anniversary. Established by renowned ecologist Professor Phil Grime, the unique facility had been assessing the effects of climate change on grasslands through drought, warming, and watering treatments over three decades, offering unparalleled insights into how these ecosystems might evolve under climate change. Grasslands are crucial for biodiversity, carbon storage, livestock grazing, and human wellbeing. However, the UK had lost over 95% of its native species-rich grasslands, and the remaining areas were increasingly threatened by climate change. Researchers from the University of Liverpool, who chaired the Lab's Steering Committee, emphasised the urgency of understanding and mitigating these impacts to preserve these vital habitats. Unfortunately, long-term climate change experiments like Buxton's received no dedicated research or government funding. To prevent losing this invaluable resource, researchers from Liverpool, Sheffield, and Lancaster launched a crowdfunding campaign to secure future funding. Support

from University of Liverpool alumna and BBC presenter Megan McCubbin highlighted the campaign's importance. McCubbin, who visited the Lab with Dr. Whitlock, emphasised the critical need for ongoing long-term research amid the escalating climate and biodiversity crises. The Buxton Climate Change Impacts Lab was also featured in the YouTube series *8 Out of 10 Bats* on its anniversary.

[Read more about our impact in SDG15 on our website.](#)







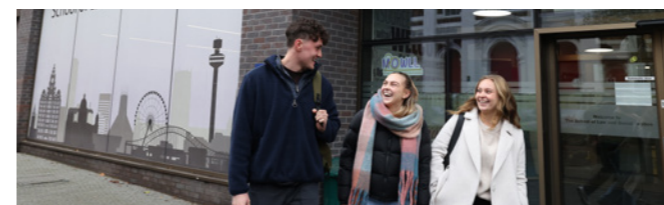
# GOAL 16: PEACE, JUSTICE AND STRONG INSTITUTIONS

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

## Operations

The University of Liverpool is deeply committed to SDG 16, actively promoting ethical governance, inclusivity, and accountability across its operations while fostering a culture of fairness, transparency, and respect for human rights. The University is guided by a robust and inclusive governance structure that ensures representation from students, academic staff, professional services staff, and the Liverpool Guild of Students on its highest governing body, [Council](#), which oversees overall governance and delegates academic matters to [Senate](#), supported by specialised committees. The [Senior Leadership Team \(SLT\)](#), chaired by Vice-Chancellor Professor Tim Jones, manages operational decision-making. The [Liverpool Guild of Students](#), one of the UK's best-funded student unions, is recognised as the official voice of our students, working closely with the University to address a wide range of issues and amplify student perspectives locally and nationally. As part of our commitment to ethical practices and employee engagement, the University has established [Values and Ethics Principles](#) to guide decision-making, partnerships, global impact, and staff support. We maintain zero tolerance for bullying and harassment, supported by policies such as the [Freedom of Speech Policy](#), which protects academic freedom and ensures all groups can express their views, and the [Report + Support](#) tool for reporting incidents of bullying, harassment, sexual misconduct, hate crime, assault,

or discrimination. The University has also signed the [Can't Buy My Silence Pledge](#), committing to end the use of NDAs in cases of harassment, bullying, and misconduct. Our [Anti-Bribery and Corruption Policy](#) ensures integrity and fairness in all business dealings, while the [Ethical Investment Policy](#) reflects our commitment to socially responsible investment, considering environmental, social, and governance factors. Transparency is a core value, demonstrated through the annual publication of comprehensive [Financial Statements](#). These initiatives embody the University's dedication to fostering an ethical, inclusive, and accountable institutional culture.



## Education and student experience

The University of Liverpool offers a range of programs in law, social sciences, and international relations, complemented by workshops and seminars on anti-corruption, accountability, and peacebuilding, equipping students with the knowledge and skills for justice and ethical leadership. The Liverpool Law School emphasises challenging injustice and promoting equality of opportunity, providing undergraduate and postgraduate courses in law, social policy, political science, and international relations, with themes such as conflict resolution, human rights, and governance. Notable offerings include the [Political Science and International Relations MA](#), which covers contemporary issues like governance in the digital age. Students can also engage in philosophical exploration through modules like [Liberty, Justice, and the Good Society](#), exploring core concepts like freedom and equality. Practical experience is provided through the [Liverpool Law Clinic](#), where students, under expert supervision,

offer free legal advice to disadvantaged communities, contributing to social justice and gaining real-world expertise.

## Research and knowledge exchange

The [Liverpool Law School](#) is committed to advancing SDG 16 through research that promotes social justice and addresses systemic inequalities. Projects tackle the impacts of legal aid cuts and austerity measures, strengthening access to justice for vulnerable groups in Liverpool. The work, including the [Liverpool Access to Advice Network \(LATAN\)](#), fosters collaboration among over 100 organisations, improves legal advice pathways, and highlights the role of free legal support in addressing social challenges like homelessness and health inequalities. Additionally, research theme [Economic, Social, and Cultural Rights: Transforming Conflict, Building Peace](#), explores the intersection of economic rights and peacebuilding, influencing policies and partnerships with bodies like UN Women. Other research projects like [#Speakout](#) address online harassment in educational contexts, while studies on the [gig economy](#) examine precarious employment practices. Collectively, these initiatives exemplify the Law School's interdisciplinary approach to fostering peace, justice, and equity at local, national, and global levels.

## Case Study

### Uncovering the legacies of Australia's criminal justice system on Aboriginal communities

A four-year [research project](#) led by the University of Liverpool, in collaboration with the Universities of Leeds, Tasmania, and Liverpool John Moores, has resulted in a series of documentary films shedding light on the legacies of Australia's criminal justice system on Indigenous communities. Funded by the Arts and Humanities Research Council (AHRC), the project aimed to provide a nuanced understanding of these communities' experiences. The documentaries explore the profound challenges faced by Aboriginal people, particularly in Roebourne, Western Australia. Despite significant social disadvantages, the films highlight the community's resilience, strong collective identities, hope, and commitment to preserving their culture and advancing education. The films are testaments to resilience, hope, and the enduring strength of Indigenous

communities, and emphasise the importance of amplifying Indigenous voices and challenging stereotypes to foster understanding and empathy. The project also involved media training workshops at Roebourne High School, where Indigenous youth were equipped with filmmaking and storytelling skills. This initiative empowered them to shape their own narratives and connect more deeply with their heritage. The project not only highlights the often-overlooked histories of Indigenous Australians within the criminal justice system but also broadens the horizons of participating youth. The collaboration aimed to conduct research with, rather than on, the community, enhancing mutual understanding and respect.



## Case Study

### Centre for Sustainable Business Summer Conference 2024

On June 13th, 2024, the [Centre for Sustainable Business](#) held its second annual summer conference, themed '[Full, Fair, and Honest ESG Communication](#).' The event addressed the growing pressure on organisations to transparently disclose their environmental, social, and governance practices. The one-day conference, led by CSB Director Professor Jo Meehan, brought together researchers and business leaders to explore the challenges of honest ESG reporting. Keynote speakers included Ben Carpenter, CEO of Social Value International; Dr. Ahmed Al-Abdin, Senior Lecturer in Marketing; Ryan Bromley, Partner at Good Innovation; and Yvonne Filler, Marketing Manager at Good Innovation. They shared diverse perspectives on ESG communication and its implications. The conference featured interactive roundtable discussions facilitated by CSB academics Professor Charlie Cai, Dr. Jen Davies, and Clare Westcott. These sessions encouraged deep reflection and dialogue on ESG reporting strategies, offering practical insights for attendees. A standout moment was

Sophia Polson's creative session, where she discussed the power of visual storytelling in climate change communication. Her presentation, along with the day's discussions, inspired delegates to rethink their ESG strategies and foster meaningful change. The CSB Summer Conference 2024 successfully highlighted the importance of transparent ESG reporting and its role in building trust and driving sustainability. The CSB, part of the Management School Research Centres, focuses on bridging academic research with practical business solutions to address climate and social justice challenges.

[Read more about our impact in SDG16 on our website.](#)





# GOAL 17: PARTNERSHIP FOR THE GOALS

Strengthen the means of implementation and revitalize the global partnership for sustainable development

## Operations

The University of Liverpool supports SDG 17 by fostering partnerships with local, national, and international organisations to drive sustainability, research impact, and global development goals through collaborative projects and knowledge exchange. Committed to strengthening cooperation between nations, the University aligns with the SDG Accord as a shared framework for progress. In recognition of our efforts, the University was ranked **first for SDG 17 in the 2022 THE Impact Rankings, scoring 100%**. Our contributions span research, graduate outcomes, and its role as an employer, landholder, regional partner, and civic leader. The University has mapped its impact through reports like the **Sustainable Development Goals Report 2022/23**,



the **Education for Sustainable Development Report**, and the **SDG Curriculum Mapping Report**, and provided insights to Liverpool's **SDG Data Platform**. The University is a key member of the **Liverpool City Region Climate Partnership**, and together with the **All-Party Parliamentary Group (APPG)**, the Heseltine Institute for Public Policy, Practice and Place developed a **net zero manifesto** for the Liverpool City Region (LCR). Additionally, the University plays a vital role in **Knowledge Quarter Liverpool** (KQ Liverpool), collaborating with key partners to foster innovation and reduce the economic gap with London and the Southeast.

## Education and student experience

The University of Liverpool offers a wide range of courses that support SDG 17, focusing on collaboration, sustainability, and global development. Students are able to explore this topic from a number of different perspectives within course modules such as **Enterprise, Corporate Governance and Sustainability**, which equips students with the knowledge and skills to understand and engage in effective business partnerships that drive sustainability and social responsibility. By examining the relationship between business enterprise, corporate governance, and sustainability, the course highlights the importance of Environmental, Social, and Governance (ESG) factors in fostering cross-sector collaboration. **Media and human rights** critically examines how media can influence global partnerships

for human rights, encouraging collaboration between media, governments, and civil society to ensure accurate representation and effective action on human rights issues. We offer students opportunities to volunteer in outreach activities within schools and the local community through our partnership with **Enactus**, a national initiative that empowers students across the country to engage in social action and social enterprise.

## Research and knowledge exchange

The University of Liverpool supports SDG 17 through its collaborative research initiatives that foster cross-sector partnerships, promote knowledge sharing, and address global challenges. The university engages in strategic partnerships with academic institutions, governments, NGOs, and international organisations to drive impactful research across various fields, including sustainability, health, and social justice. Through interdisciplinary research projects, the University contributes to the development and implementation of innovative solutions for the SDGs, emphasising the importance of cooperation between nations, sectors, and communities. Our research activities focus on capacity building, policy development, and addressing pressing global issues through partnerships that maximise the collective impact on sustainable development. The **Climate Futures** research theme advises governments and industry,

and the Management School's **work on modern slavery in corporate supply chains**. Additionally, partnerships like **CLEAN-Air(Africa)** bring together experts across nations to tackle pressing global issues.



## Case Study

### Developing long-term partnerships

The University of Liverpool and Sumy State University (SumDU) in Ukraine embarked on **a new research collaboration** focused on digitalisation and digital transformation, supported by a £197k grant from Universities UK International's (UUKi) UK-Ukraine R&I twinning grant scheme. Following their partnership established last year, which included hosting Ukrainian students at the University's International Summer School and providing access to electronic resources and IT support, this new programme aimed to strengthen research links and develop long-term partnerships. The five-month project sought to enhance collaboration in digital economics, renewable energy, digital infrastructure, and digital transformation. The initiative involved support for visiting and remote scholarships, knowledge exchange activities, and training programmes. It connected the University of Liverpool's Digital Innovation Facility, Virtual Engineering Centre, Institute of Digital Engineering and Autonomous Systems, Materials Innovation Facility, and Stephenson Institute for Renewable

Energy with SumDU's Faculty of Electronics and Information Technologies, Faculty of Technical Systems and Energy Efficient Technologies, and Institute for Business, Economics, and Management. The funding supports joint projects, knowledge transfer, and equipment provision, creating a deeper collaboration and impacting Ukraine's recovery. The initiative, part of the UK-Ukraine Twinning Initiative coordinated by Cormack Consultancy and funded by Research England, emphasises ongoing support for Ukraine through academic collaboration. Indigenous youth were equipped with filmmaking and storytelling skills. This initiative empowered them to shape their own narratives and connect more deeply with their heritage. The project not only highlights the often-overlooked histories of Indigenous Australians within the criminal justice system but also broadens the horizons of participating youth. The collaboration aimed to conduct research with, rather than on, the community, enhancing mutual understanding and respect.

## Case Study

### Liverpool-Shanghai sister cities partnership

The University of Liverpool signed three new agreements with Shanghai institutions during a visit in May 2024, marking the 25th anniversary of the **Liverpool-Shanghai sister cities partnership**. The agreements were announced at a celebratory event held at the Museum of Art Pudong. Professor Tariq Ali, Pro Vice-Chancellor for Global Engagement & Partnerships at the University of Liverpool, led the delegation, which also included representatives from Liverpool City Council, Liverpool China Partnership, and Liverpool John Moores University. Senior officials from both the UK and China, including Ms. Ma Yinghui, Deputy Director of the Foreign Affairs Office, Shanghai, and Ms. Catherine Sinclair-Jones, Director of the British Council in East China, attended the event. The University of Liverpool formed a strategic partnership with Shanghai Jiaotong University, a top 100 global institution, to foster research collaborations in marine sciences, health and biomedicine, and creative industries. An agreement with East China University of Science and Technology (ECUST)

was established to support student mobility and build on the existing partnership with the University's Materials Innovation Factory. Additionally, a Memorandum of Understanding was signed with the Yangtze Delta Research Institute of Tsinghua University to explore industry-led research opportunities. The delegation also visited Xi'an Jiaotong-Liverpool University (XJTLU) in Suzhou, highlighting the University's successful joint venture in China. The visit was part of ongoing celebrations and initiatives aimed at deepening international collaborations and exploring future opportunities.

**Read more about our impact in SDG17 on our website.**





# WHAT NEXT?

The 2024/25 academic year promises to be an exciting period for sustainability at the University of Liverpool. With the launch of the University's new strategic framework, **Liverpool 2031**, which integrates sustainability as a core theme, we are preparing to unveil our new Sustainability Strategy towards the end of 2024. This strategy will align with our established objectives and emphasise advancing the Sustainable Development Goals while upholding our **Climate Plan** commitments and meeting regulatory and compliance requirements under our UKAS accredited ISO14001 Environmental Management System. We will track our progress using a new set of strategic and operational metrics, with quarterly reports to the Sustainability Committee and Senior Leadership Team.

We are excited about the recent launch of our new **Interdisciplinary Centre for Sustainability Research**, which will act as a nexus for interdisciplinary research and impact at Liverpool. It will bring together researchers with different types of knowledge, experience and skills from across the University, as well as engaging with national and international experts. The Centre's mission is to support teams of researchers who can collectively tackle the United Nations Sustainable Development Goals, with the initial focus being on climate-related SDGs.

We will be rolling out several key initiatives to strengthen our sustainability and net zero efforts on campus. Alongside the new Sustainability Strategy, we will be updating and enhancing the Climate Plan, and launching a new **Waste Management Plan**, and **Biodiversity Plan** later this year. The Biodiversity Plan and Waste Management Plan will sit alongside the Climate Plan as a key enabling document for the University's Sustainability Strategy, which builds on the vision and commitments set out in our strategic framework, Liverpool 2031. Finally, we will be developing our new student induction and training programme by showcasing the Sustainability in Action module as part of Welcome Week and inviting students to complete the module as a part of their induction to the University. A new campaign will see us encourage new students to carry out the module, as well as promoting the halls sustainability programme, so that new students become aware of sustainability issues, and how they can contribute to improving them whilst in halls and beyond. The **Halls Sustainability programme** includes a range of volunteering and **Give it a Go** activities that provide students with the chance to engage in sustainability initiatives across campus. As part of the halls sustainability offering, the **Guild** provide training to equip students with the knowledge and skills to contribute to our sustainability goals and affect change at the University and in our wider communities.



## SUSTAINABILITY STRATEGY 2031





# FIND OUT MORE

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To read more about how we are supporting the Sustainable Development Goals, visit our [website](#).

You can follow our progress on any of our social media channels:

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